

Appl. No. 09/991,211  
Amdt. dated August 18, 2005  
Reply to Office Action of May 18, 2005

### REMARKS

Claims 1-6, and 54-69 are pending in the above-identified.

#### Objection to the Drawings

The Examiner has objected to the first sheet of figures 4 and 12. Applicants have previously noted that the first sheet is a conventional method of clarifying that the listing is intended to be read continuously. In a teleconference with the Examiner, the Examiner noted that the first pages of these drawings were extraneous and that it would be understood that the listing on the consecutive pages were to be read consecutively. Applicants have therefore amended the specification to clarify this point and have requested deletion of the first sheets of Figure 4 and Figure 12.

#### Specification/ Informalities

The Examiner has pointed out that a paragraph on page 16 contained a typographical error, referring to thymidylate kinase instead of Mur B in two instances. Since the entire application relates to the MurB, and not thymidylate kinase, an obvious typographical error occurred. Applicants respectfully request that the paragraph be corrected as indicated in the corrections to the specification.

#### Rejection Under 35 U.S.C. §102(e)

The examiner has rejected claims 1-6 under 35 U.S.C. §102(e) as allegedly anticipated by Wallis et al. (U.S. Patent No. 6,225,098 B1) or Database GenBank Accession Number P08373. This rejection is respectfully traversed.

For anticipation to occur, a prior art disclosure must put the public in possession of the invention:

"In determining the quantum of prior art disclosure which is necessary to declare an applicant's invention 'not novel' or 'anticipated' within section 102, the state test is whether a reference contains an 'enabling disclosure'..... *In re Hoeksema*, 299 F.2d 269, 158 USPQ 596 (CCPA 1968). A reference contains an "enabling disclosure" if the public was in possession of the claimed invention before the date of invention. "Such possession is effected if one of ordinary skill in the art could have combined the

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publication's description of the invention with his [or her] own knowledge to make the claimed invention. "*In re Donohue*, 766 F.2d 531, 226 USPQ 619 (Fed. Cir. 1985).

M.P.E.P. §2121.01. Applicant respectfully submits that each cited document fails to put the public in possession of the claimed invention.

Claims 1-6 each recite a specific set of amino acids according to Table I, and the FAD binding pocket being defined by a set of points relative to the structure coordinates listed in Figure 4 (i.e., three-dimensional structural information). Notably, neither of the cited documents discloses such three-dimensional structural information as recited in claims 1-6. Moreover, neither of the underlying documents for Database GenBank Accession Number P08373 (i.e., Howard et al., *Gene*, 35:321-331 (1985); and Pucci et al., *J. Bacteriology*, 174:1690-1693 (1992)) discloses such three-dimensional structural information as recited in claims 1-6.

None of the cited references taken alone or together teach the claimed FAD pocket with the structural coordinates provided as claimed. The amino acid sequence of a protein does not provide any indication of the three dimensional structure of the protein, nor does it disclose the specific binding pocket and its orientation to the whole amino acid sequence.

In view of these amendments and remarks, reconsideration and withdrawal of the rejections under 35 U.S.C. §102(e) is respectfully requested.

#### **Rejection Under 35 U.S.C. §112, First Paragraph**

The examiner has rejected claims 54-61 as allegedly comprising new matter and failing to meet the enablement /written description requirement of 35 U.S.C. §112, first paragraph. This rejection is respectfully traversed.

Claim 54 is directed to fragments of SEQ ID NO:1 that consist of a portion of SEQ ID NO:1 that is a contiguous stretch of amino acids starting at amino acid 14 and ending at amino acid 229. The examiner notes that there is a 34 amino acid gap within the claimed region. Applicants respectfully note that not every amino acid must be disclosed and reference to extraneous elements known in the art may be utilized in interpreting the written description requirement. The claimed purified polypeptide is sufficiently described to support the claimed invention.

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Similarly, Claim 58 is directed to fragments of SEQ ID NO:1 that consist of a portion of SEQ ID NO:1 that is a contiguous stretch of amino acids starting at any amino acid between amino acid 44 and 155 and ending at any amino acid from amino acid 274 to 309. Tables 4 through 6 demonstrate support for the claimed residues and ranges thereof.

Claims 62 -65 and 67-69 are rejected as containing subject matter that was not described in the specification in such a way to demonstrate that the inventors had possession of the claimed invention at the time the application was filed. Applicants submit that no new matter was added. The rejected claims refer merely to the original specification and to information disclosed therein. Merely wording a claim to specifically point to specific data already disclosed is not new matter.

The Examiner rejected claims 54-61 under 35 U.S.C. §112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention, and alleged that claims 54-61 include new matter. Specifically, the Examiner alleged that the starting and ending points of the polypeptides recited in claims 54 and 58 are not supported by the originally filed specification. Applicants respectfully traverse the rejection.

Independent claims 54 and 58 are each directed to a polypeptide consisting of a portion of *S.aureus* MurB (SEQ ID NO:1) that includes a binding pocket.

Independent claim 54 recites a polypeptide consisting of a portion of *S. aureus* MurB (SEQ ID NO:1), wherein the portion consists of a contiguous stretch of amino acids starting at one of amino acids 37 to 42 and ending at one of amino acids 310 to 312 of SEQ ID NO:1; and that claim 58 recites a polypeptide consisting of a portion of *S. aureus* MurB (SEQ ID NO:1), wherein the portion consists of a contiguous stretch of amino acids starting at one of amino acids 42 to 155 and ending at one of amino acids 274 to 309 SEQ ID NO:1. Applicants respectfully

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submit that the claimed polypeptides are adequately supported by the originally filed specification.

Specifically, claim 54 is directed to fragments of *S. aureus* MurB (SEQ ID NO:1) that include amino acid residues in the FAD binding pocket as listed, for example, in Tables 1-3. As such, the smallest fragment possible that includes all the polypeptide amino acids listed in Tables 1, 2, or 3 must necessarily start at the smallest numbered residues in Tables 1-3 (i.e., amino acids 37, 41, or 42 in Tables 3, 2, or 1, respectively) and end at the largest numbered residues (i.e., amino acids 310, 312, or 312 in Tables 1, 2, or 3, respectively). Thus, Applicant respectfully submits that claim 54, which recites a contiguous stretch of amino acids starting at one of amino acids 37 to 42 and ending at one of amino acids 310 to 312 of SEQ ID NO:1, is adequately supported by the specification.

Similarly, claim 58 is directed to fragments of *S. aureus* MurB (SEQ ID NO:1) that include amino acid residues in the substrate binding pocket as listed, for example, in Tables 4-6. As such, the smallest fragment possible that includes all the polypeptide amino acids listed in Tables 4, 5 or 6 must necessarily start at the smallest numbered residues in Tables 4-6 (i.e., amino acids 42, 82, or 155 in tables 6, 5, or 4 respectively) and end at the largest numbered residues (i.e., amino acids 274, 308, or 309 in Tables 4, 5, or 6 respectively). Thus, Applicant respectfully submits that claim 58, which recites a contiguous stretch of amino acids starting at one of amino acids 42, to 155 and ending at one of amino acids 274 to 309 of SEQ ID NO:1, is adequately supported by the specification.

In view of these amendments and remarks, withdrawal of the rejections under 35 U.S.C. §112, second paragraph, is respectfully requested.

The above discussion is based on section 112 issues and are not made to overcome art-based rejections. Accordingly, such discussion and corresponding Amendments should not be construed in a limiting manner.

It is respectfully submitted that the claims have been put in condition for allowance. Notification to this affect is earnestly solicited. The Examiner is encouraged to contact the

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Applicants' undersigned attorney at (734)622-4182 to discuss this matter if any questions should arise upon further examination of the pending claims.

Respectfully submitted,

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Date

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